MASSIVE HYPERTROPHY OF THE BREASTS*

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In 1891, Dr. C. B. Porter,[1] preliminary to reporting a case of massive hypertrophy of the breasts before the American Surgical Association, said, "I should not think of asking the attention of such a distinguished gathering of surgeons to the report of a single case, were it not that it falls to the lot of but few surgeons to see such a case and still fewer to operate on one." It is, indeed, still rare that the surgeon is asked to amputate the breast solely because it has attained such size, that it is a real burden to the patient, wearying her with its weight, and preventing her from carrying on her usual duties.

Massively hypertrophied breasts are of two types: (1) The fibro-epithelial, and (2) the adipose type. The enlarged breast of the first type consists of fibrous tissue and glandular acini, usually with great preponderance of the former. That of the second type consists mainly of fat with some connective tissue dividing the fat into lobules and containing some atrophied glandular acini.

Of the less than one hundred authentic reports of massive hypertrophy of the breasts, only six † state that the main constituent of the enlarged breast was fat. The rarity of the reports of this form of massive breast-hypertrophy warrants a description of this case.

Case Report.—History: M. R., twenty years of age, colored, entered St. Luke's Hospital, on the service of Dr. S. C. Plummer on March 29, 1926, because of the enormous size of her breasts and the resulting inability to work.

She was always considered as fat, and her breasts were somewhat larger than those of other girls of her age. When fourteen years old, she weighed 148 pounds. At seventeen years of age her menstrual periods began. Soon her breasts began to grow very rapidly, all out of proportion to the rest of her body. She became generally more obese, but the breast-growth continued entirely out of proportion to her obesity. At nineteen she weighed 188 pounds and at entrance to the hospital 240. The breasts were so heavy that for seven months she could do no work and was forced to live on her meagre savings. The sagging of the breasts and friction of her clothes had caused superficial excoriations of the skin of the right breast.

She had a good appetite, ate an unrestricted diet twice daily, felt strong, had no digestive troubles, and slept much. She had dyspnœa, when climbing stairs. This was relieved considerably by supporting the breasts with her hands to lessen the dragging on the chest-wall.

Her menstrual periods began at seventeen years of age, appeared regularly every

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† Guthrie and Albert,[2] Robert and Amusat,[3] Warren,[4] Beatson[5] and Keyser.[6]

twenty-eight days, and continued for three to five days. Several of the last periods were only of two days' duration.

No other member of her family was obese. Her father, however, was "somewhat stout."

Physical Examination.—The patient is an obese negress, about twenty years of age, with enormous breasts (Fig. 1). They both have about the circumference of an ordinary football, hang to a level of more than an inch below the umbilicus, have flattened nipples, and contain no definite nodules or hard masses. There are two superficial irregular ulcers, close to each other and about 3 cm. in diameter, on the front surface of the right breast. The skin about the ulcers is darker brown than elsewhere. There is a very light brown scar of the right breast, in all about 2 cm. square, which resembles the scar from a burn. No other noteworthy deviations from the normal are found upon physical examination.

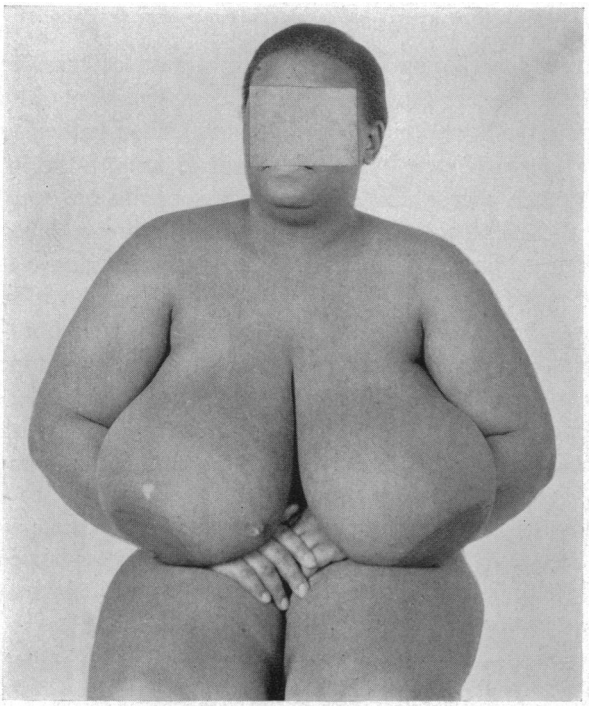

FIG. 1.—Massive hypertrophy of the breasts; photograph of case reported by Plummer.

The basal metabolic rate is 6.5 per cent. below normal The blood Wassermann reaction is negative. There are 4,350,000 erythrocytes per cubic mm. of blood, and 8950 leucocytes. The hæmoglobin percentage is 85. The urine contains some albumin, numerous erythrocytes and bacteria, and many leucocytes. The systolic blood-pressure is 130, the diastolic 84. The pulse rate is 80, the respiratory rate 24.

Operation.—The breasts were amputated (Plummer) on April 3, 1926, by horizontal, elliptical incisions, leaving two horizontal suture lines. Ether anæsthesia was used. There was very little hemorrhage and no post-operative shock. The left breast, immediately after amputation, weighed 9 pounds and 2 ounces, the right 9 pounds.

The patient's recovery was rapid and with primary healing of the wound. She was discharged April 15, 1926. Her next menstrual period was very scanty.

Pathological report by Dr. Edwin Hirsch: These two female breasts are about equal in size and weight 9 and 9⅛ pounds. About three-quarters to four-fifths of the outside is covered with a dark brown skin; and in front is a nipple scarcely elevated, 2 cm. in diameter, with an areola 11 cm. in diameter. In the skin of one, 10 cm. from the nipple, are two superficial ulcerations 2.5 cm. in diameter. There is no muscle tissue on the under surface of either breast. On surfaces, made by cutting, practically the entire substance is fat. The amount of fibrous tissue on these surfaces is estimated by three people to be 5 to 10 per cent.

On microscopic sections, portions of the breast contain small ducts and acini, distributed in fibrous tissue septa. Otherwise, there is only fatty areolar tissue.

Discussion.—Deaver and McFarland's [7] monograph on the breast contains 240 references to literature on hypertrophy of the breast. This is not a collection of 240 cases, as some have stated for, as Grieg [8] says, 51 of these articles contain no new case-reports, and another considerable number probably describes breast-enlargements due to tumors.

Grieg,[8] in 1922, could verify only 26 cases of true massive hypertrophy of the breast. The addition of 20 unverified, but probably authentic cases from Deaver and McFarland's list, and the one, reported by him, brought his total to 47.

Thirty-four of these were virgins, five were of doubtful chastity, six were women pregnant for the first time, and two were pregnant multiparous women. The ages of the virgins were eleven to twenty-three years, with nineteen as an average. The average age of those of doubtful chastity was twenty-four; of the primiparous pregnant women, twenty-six, and of the multiparous women, thirty-six. These figures concern mainly the fibro-epithelial type of breast-hypertrophy, for the case of Robert and Amusat [8] was the only adipose type included.

It is evident from the above statistics that hypertrophy of the breast at least that of the fibro-epithelial type, is associated with puberty and with pregnancy, hence, the terms virginal, puberty, puberal, adolescence, gravidity, lactation, and puerperal hypertrophies have been used. Grieg [8] suggests that "puberal hypertrophy" be used to cover the group and includes the rarer variety, appearing with pregnancy, under this term.

When the hypertrophy of the breasts is first apparent, it is thought to be only the development which is normal for puberty or pregnancy, as the case may be. The enlargement, however, is progressive and soon passes physiological limits. The patient and her family are mortified by the great size of the breasts. The awkwardness, brought on by the size of the breasts, and the great weight with the dragging on the chest wall and embarrassment of respiration may quite incapacitate the patient.

The largest breasts were described by Durston [9] in 1669. They were said to have grown to their maximum size over night, following a cessation of menstruation for six months. The left breast weighed 64 pounds and the right 40. This case is probably authentic, except for the period of growth. The spirit of exaggeration on the patient's part, in order to make hers a remarkable case, probably accounts for the statements concerning the sudden appearance of the hypertrophy. Porter [1] described two breasts, which were amputated by him, as weighing 43 and 17 pounds.

Disorders of menstruation, particularly very scanty menstruation and amenorrhœa, according to Grieg [8] and others, often are coincident with overgrowth of the breast.

Hypertrophied breasts may be of normal consistency. However, observers have not infrequently described the breasts as soft, except for many fairly distinct nodules throughout. When this nodular character can

be made out, one can feel fairly sure that the hypertrophy is not of the adipose type.

Grieg [8] states that "puberal hypertrophy" is a distinct condition. He does not think that huge, fatty breasts should be included in this category, because general obesity may be accompanied by larger than normal breasts, especially in men. The following table is made with data from the reported cases of adipose hypertrophy of the breast, including the case reported here:

TABLE I

Reporter	Year reported	Age	Menstrual	Puberty	Primipara	Multipara	Wt. of patient	Pain	Growth period	Size of Breast	
										R.	L.
Robert and Amusat[3]	1851	18	Amenorrhœa	×			....	+	1 yr.	80 cm. circum.	80 cm. circum.
Warren[4]	1905	43	.....			2 abortions	....	0	.....	.....	.....
Beatson[5]	1908	30	Amenorrhœa	..	..	.....	196	+	6 yrs.	.....	.....
Guthrie and Albert[2]	1911	24	Irreg. absent for 3 mos.		×		164	+	7 mos.	5¼ lbs.	4¾ lbs.
Keyser I[6]	1921	19	Scanty	×			178	0	5 yrs.	4.4 lbs.	4.95
Keyser II[6]	1921	41	Normal			×	166	0	1 yr.	5.02	4.07
Author's	1926	20	Late establishment scanty	×			240	0	2 yrs.	9	9⅛
Average		28.8	.....	3	1	2	188.8	..	2.6 yrs.	5.9	5.72

It is evident from the data of this table that the essentials of the histories of these cases are much like those in which the breasts consisted mainly of fibro-epithelial tissue. The average age for the unmarried patients is nineteen, the same as that for the virgins of Grieg's collection. The age of the woman, pregnant for the first time, is twenty-four, while Grieg's average is twenty-six. The ages of the two multiparous pregnant women averaged forty-two. Grieg's average is thirty-six.

In five of the six reports of the table, which mentioned the menstrual function, a distinct departure from normal menstruation was described, with the tendency towards amenorrhœa. This also is in agreement with the statement of Grieg concerning the fibro-epithelial type.

The breasts of obese women may be singularly small, or they may be large, quite in proportion to the obesity of the body as a whole. The massively hypertrophied breasts of the adipose type not only develop at times and under conditions quite analogous to the fibro-epithelial type, but also have a structure which is not that of the breast of obesity. Guthrie and Albert [2] pointed out that the large breasts of general obesity, although con-

taining large amounts of fat, have a real glandular portion, well circumscribed and quite free from fat, while the hypertrophic breast of the adipose type has the glandular portion disseminated in the connective tissue which divides the fat into lobules.

Huge hypertrophy of the breast, occurring at puberty or pregnancy with a not infrequent menstrual abnormality, suggests that some constitutional disturbance, possibly of endocrine nature, is the inciting factor. Williams [10] states that the normal increase of the female breast at puberty may often be due "even more to the overgrowth of its fibro-fatty envelope than to the glandular ectasia." It seems plausible that a constitutional or endocrine derangement, which causes great hypertrophy of the mammary fibro-epithelial tissue in the average non-obese young woman, may cause a marked hypertrophy of the fatty areolar tissue in individuals who are prone to deposit fat. The two types of hypertrophy have an important point in common. In both the hypertrophy is diffuse with dissemination of the acini. The main difference between the fibro-epithelial and adipose varieties is that in the former the tissue is usually mostly fibrous and in the latter mostly fat with a meshwork of fibrous tissue.

Inasmuch as these two forms of breast-hypertrophy cause truly massive breasts, and inasmuch as they, after all, are probably not so distinctly related, it seems logical that the term, massive hypertrophy of the breast, be applied as a descriptive term to include hypertrophies of both types, as was suggested by Keyser.[6]

Grieg [8] accepted only eight cases of enlargement of the breasts accompanying pregnancy as belonging to this group. Von Angerer [11] says that the large breasts of pregnancy and those of puberty are differentiated by their course. The former are greatly reduced by abortion, confinement and by medical treatment. The latter do not respond to these measures.

It is noteworthy that most of the various reports of spontaneous resolution, or of resolution following the administration of iodides and tight bandaging, concern the enlargement of the breasts with pregnancy. Monod [12] saw a patient whose breasts became very large with each of three pregnancies, but returned to normal size after each confinement. Rosinski [13] tells of a twenty-eight-year-old woman who was at the sixth month of pregnancy and had colossal breasts. With each of three preceding pregnancies there was great enlargement with ultimate resolution. Esterle [14] states that the huge breasts of a pregnant girl of twenty years diminished to normal size after confinement and copious secretion of milk. One wonders if these were truly cases of the massive hypertrophy under discussion, especially since the latter are rarely reported as functionating breasts.

The report of spontaneous resolution of hypertrophied breasts by Benoit and Monteils [15] illustrates the lack of function of these breasts and the time necessary for resolution. The breasts of their patient began to enlarge when she was fourteen and a half years old and continued to grow until she was eighteen. They remained about the same size for eight years and then, after

the birth of three children, atrophied until the skin hung in loose folds. No milk was secreted at any time.

The treatment of massive hypertrophy of the breasts is apparent from the foregoing statements. The term, massive hypertrophy of the breasts, entails huge breasts, frequently of such size that invalidism is the patient's lot. When this enormous growth occurs at puberty, without the influence of pregnancy, amputation is the only treatment. The importance of the organs to be removed is no contra-indication to amputation, for seldom do these breasts functionate.

When pregnancy is seemingly the factor inciting the enlargement of the breasts, it is best to wait and watch. It is most difficult or impossible to distinguish the excessive physiologic-like growth of the breasts in pregnancy from the hypertrophied breasts, similar to those of puberty. The former, usually become normal or much reduced in size after parturition.

Fitzwilliams [16] and Rovsing [17] tried X-ray therapy without marked success. One of the breasts of Rovsing's patient, however, did decrease in size.

SUMMARY

A case of massive hypertrophy of the breasts of the adipose type is described. It is logical that this type be included with the fibro-epithelial type under the term massive hypertrophy of the breasts.

This affection, occurring at puberty, warrants amputation. When it occurs with pregnancy, operation should be delayed until it is evident that resolution does not follow the termination of pregnancy.

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